

U.S. Extended Deterrence in Europe and in the Asia-Pacific: Similarities, Differences, and Interdependencies

Annotated Bibliography

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Annotated Bibliography for the workshop:

**U.S. Extended Deterrence in Europe and in the Asia-Pacific:
Similarities, Differences, and Interdependencies**

Center for Global Security Research, Lawrence Livermore National Laboratory

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Workshop agenda:

1. (Dis)similar and (Dis)connected Regional Security Environments?

How do the challenges to U.S. extended deterrence in Europe and in the Asia-Pacific compare? To what extent do evolving threats and challenges to U.S. allies in the Asia-Pacific impact (directly or indirectly) U.S. European allies and vice versa? What kind of support, if any, do U.S. Asia-Pacific allies expect from U.S. European allies in addressing their security concerns and vice versa? What are the U.S. expectations?

2. Evolution of Regional Deterrence Strategies and Policies

How have NATO and U.S. bilateral alliances with Japan and South Korea adapted to increasing regional threats and challenges? Are steps taken so far perceived as credible and sufficient to reassure allies and deter potential adversaries? Have the adaptations so far undertaken affected allied security perceptions in the other region? Where we should be heading? What do allies expect from the United States and what does the United States expect from its allies?

3. Extended Deterrence Hardware: In Search of a New Appropriate Mix?

Is the mix of nuclear and non-nuclear capabilities in Europe and in the Asia-Pacific appropriate? What is the strongest and the weakest element of the mix in each region? What are desirable and possible options of upgrading the deterrence capabilities in Europe and in the Asia-Pacific? Which options for improving deterrence capabilities would need to be tailored to regional requirements and which could suit the needs of U.S. allies from both regions?

4. Options for Updating Extended Deterrence Software

What is the role of declaratory policies, consultations, planning, exercises and U.S. deterrence operations in assuring allies and deterring potential adversaries? What further steps are needed, and what should be avoided? What are the main barriers to strengthen coherence between nuclear and non-nuclear tools of extended deterrence in both regions? Are there any lessons from signaling credibility of U.S. extended deterrence in one region which can be applied to another region?

1. (Dis)similar and (Dis)connected Regional Security Environments?

Binnendijk, Hans. "Friends, Foes, and Future Directions: U.S. Partnerships in a Turbulent World: Strategic Rethink." RAND Corporation, 2016.

https://www.rand.org/pubs/research_reports/RR1210.html

Binnendijk evaluates three broad strategies for dealing with U.S. partners and adversaries in Europe, Asia, and the Middle East in a time of diminishing defense budgets and an American public preference for a domestic focus: US assertiveness, collaborative engagement and retrenchment. He argues that collaborative engagement appears to be an imperfect but still optimal approach. To implement it, the U.S. should, among different steps, seek greater burden sharing from allies and prevent deepening of security ties between China and Russia. The United States should also sponsor new trilateral efforts to draw together U.S. partners in Europe and Asia that face similar security, political, economic, societal, and environmental problems.

Brooks, Linton and Mira Rapp-Hooper. "Extended Deterrence, Assurance, and Reassurance in the Pacific during the Second Nuclear Age," in *Strategic Asia 2013-14: Asia in the Second Nuclear Age*, edited by Ashley J. Tellis, Abraham N. Denmark, Travis Tanner. The National Bureau of Asia Research, Seattle, Washington D.C. 2013.

<http://nbr.org/publications/issue.aspx?id=294>

The need to simultaneously deter China and North Korea, assure multiple allies, and reassure China, combined with regional nuclear dynamics, makes extended deterrence in the Asia-Pacific more complex now than during the Cold War. Particularly challenging is deterring low-level confrontations in the maritime sphere and, in the future, the cyber domain. The Asia-Pacific region is subject to a "security trilemma," where U.S. actions to deter North Korea can have negative consequences for U.S. and allied security relations with China, making both assurance and reassurance much more difficult.

Chalmers, Malcolm. "Preparing for War in Korea." *RUSI Whitehall Report* 4-17. September 2017.

https://rusi.org/sites/default/files/201709_rusi_preparing_for_war_in_korea_chalmers_web.pdf

If there were to be a surprise, preventive US attack on North Korea, the UK should refuse to rush into unconditional support for US action. The UK should pay particular attention to the views of South Korea and Japan, as the regional states likely to be most adversely affected by a war. Along with other major European powers and the EU, the UK should urge the U.S. to work closely with China to establish a mechanism for negotiating shared post-war objectives. If the US strike was conducted without the agreement of the South Korean government, and if the strike was aimed at eliminating the ICBM threat to U.S. homeland, it would be seen as signifying a U.S. willingness to 'sacrifice Seoul to protect New York.' The political effect of such actions could be devastating for the US-South Korea alliance, the U.S. position as a major power in Asia, and to the U.S. global reputation as a reliable ally.

Farghen, Morgan. "Implications of the Ukraine Crisis for Security, Non-Proliferation and Deterrence in North East Asia." *Note*, no. 10/2014. Fondation pour la Recherche Stratégique. 28 May 2014. <https://www.frstrategie.org/web/documents/publications/notes/2014/201410.pdf>

While the Ukraine crisis has been a "wake up" call for Europe, it has also implications for Asian security. Both China and North Korea will probably draw lessons from the Ukrainian crisis and inadequate U.S. and European response to Russia's aggressive actions may embolden them to pursue more provocative steps. Also, the violation of Budapest Memorandum by Russia made it much more difficult to convince North Korea

to abandon its nuclear means in exchange for any “security guarantees.” Reinforced by the U.S. reluctance to follow its red lines in Syria, the crisis in Ukraine may also spread the perception that the United States would be hesitant if a comparable case would happen in North East Asia.

Frühling, Stephan and Benjamin Schreer. “NATO’s New Strategic Concept and US Commitments in the Asia-Pacific.” *RUSI Journal*, Vol. 154, Issue 5, 2009.
<http://www.tandfonline.com/doi/abs/10.1080/03071840903412069>

In the authors’ view, the rise of China poses a great challenge for the transatlantic alliance. Although the common values that bind Europe and North America will not vanish, increasing demands on US resources from the Asia-Pacific region will erode the pre-eminence of the Atlantic alliance in American security policy. NATO must therefore adapt to the new reality by acknowledging the global nature of US commitments in its new Strategic Concept, and European powers must have a debate about the implications of East Asia for their own security.

Kulesa, Łukasz. “Central Europeans and the Future of Extended Deterrence in Asia and the Middle East,” in *The Future of NATO’s Deterrence and Defence Posture: Views from Central Europe*, edited by Łukasz Kulesa. Polish Institute of International Affairs. December 2012.
https://www.pism.pl/files/?id_plik=12567

Despite the differences in the security environment, the threat perceptions and the profile of the U.S. engagement in each region, Washington’s allies and partners in Central Europe, East Asia and the Middle East share similar anxieties about the credibility of U.S. security guarantees and the availability of capabilities needed for effective deterrence. The countries of Central Europe should pay increased attention to the way in which the U.S. will manage its security relationships in East Asia and the Middle East. Establishing a security dialogue with the countries in both regions, focused on extended deterrence, may be beneficial for designing a policy to influence or deal with the possible changes of U.S. policy.

Kulesa, Łukasz. “U.S. Extended Deterrence Weakened? Lessons Learned from the North Korean Crisis,” *PISM Bulletin*, no. 57 (510), 2013. http://www.pism.pl/files/?id_plik=13749

The escalation of tensions by North Korea in 2013 raised questions about the credibility and effectiveness of extended deterrence guarantees provided by the United States to its allies. The U.S. manifested its determination to protect South Korea against an attack through political signaling and the additional deployment of forces. While it may be claimed that extended deterrence worked well during the crisis, in future contingencies Washington’s allies in Europe and in the Asia-Pacific may need to rely more on their national capabilities and focus their efforts on persuading U.S. decision-makers and the public about the merits of U.S. involvement.

Kundnani, Hans and Michito Tsuruoka. “The illusion of European ‘neutrality’ in Asia.” *European Geostrategy*. September 2014. <http://www.europeangeostrategy.org/2014/09/illusion-european-neutrality-asia/>

The instinct of many Europeans is to avoid ‘taking sides’ in a number of territorial and maritime disputes in Asia – in particular between China and its neighbors. However, European ‘neutrality’ in Asia is an illusion. Among different reasons, such a European approach would have negative implications for transatlantic ties. The US would regard ‘neutrality’ of its NATO allies as a betrayal and/or a sign of weakness and would respond accordingly. Additionally, interconnectedness of security in Asia and Europe has been illustrated by the crisis in Ukraine. While Europeans do not expect Asians to remain

'neutral' between the EU and Russia over the crisis in Ukraine, Asians expect Europeans to side with those in Asia who oppose any change of status quo by force or coercion.

Niblett, Robin. "A chance to regroup for NATO." *The World Today*, Vol. 70, No. 4, August-September 2014. <https://www.chathamhouse.org/publication/twt/alliances-chance-regroup>

Niblett discusses ways to strengthen the NATO alliance before the Wales Summit, which took place in September 2014. One of the points he makes is that NATO members would all be seriously affected by an outbreak of hostilities in East Asia. In his view, "the notion that the US alone among NATO members should take responsibility for helping to manage crises in the Asia-Pacific region while its European allies focus on commercial interests would erode the foundation of the Atlantic Alliance."

Report on U.S. - Russia Relations. International Security Advisory Board. December 2014. <https://www.state.gov/documents/organization/235118.pdf>

Final Report of the International Security Advisory Board (ISAB) on U.S. - Russia Relations broadly reviews current and future U.S. – Russian relations in a context of the crisis in Ukraine and the Russian annexation of Crimea. It notes that the Obama administration's "rebalancing" or a "pivot" to Asia-Pacific has been perceived by many – likely including Vladimir Putin – as a shift of American attention away from Europe. While it is unknowable whether a perceived decrease of U.S. strategic engagement in Europe contributed to Russian behavior towards Ukraine, the report concludes that perceptions of reduced U.S. attention to Europe need to be taken seriously as the United States considers the priority that Europe will have in American foreign and security policy in the future. The authors stress that "while the rebalancing to Asia will continue to be important, as will the claims of the Middle East and other regions, they must not come at the expense of continuing U.S. engagement with and reassurances to Europe." (pp. 20-21)

Roberts, Brad. *The Case for U.S. Nuclear Weapons in the 21st Century*. Stanford Security Studies. 2016. <http://www.sup.org/books/title/?id=26137>

The book makes the case that there is evidence that a few potential U.S. adversaries in different regions, including North Korea, Russia and China, have thought in a sustained way about a conflict with the U.S. under the shadow cast by nuclear weapons and have developed their nuclear-backed "red theories of victory." It considers implications on these developments on U.S. nuclear policy and U.S. regional extended deterrence architectures in Europe and in the Northeast Asia, and sets out "a blue theory of victory."

Roberts, Brad and David Santoro and Tristan Volpe and John Warden. "Thinking Globally about U.S. Extended Deterrence. A workshop jointly convened November 2, 2015 by Center for Global Security Research, Lawrence Livermore National Laboratory; Nuclear Policy Program, Carnegie Endowment for International Peace; The Pacific Forum, Center for Strategic and International Studies. Summary of Key Insights." LLNL-TR-681012. https://cgshr.llnl.gov/content/assets/docs/Roberts_Extended_Deterrence_Key_Takeaways.pdf

The report summarizes key takeaways from the workshop that brought together foreign deterrence specialists and government officials from U.S., Europe, and the Asia-Pacific region. Not-for-attribution discussions focused on the changing deterrence and assurance requirements, the threads that connect the regions, and U.S. strategy to deal with emerging challenges.

Roundtable: Asia-Pacific Perspectives on the Ukraine Crisis. The National Bureau of Asian Research. April 2014. http://www.nbr.org/downloads/pdfs/psa/Ukraine_Roundtable.pdf

Russia's illegal annexation of Crimea and the subsequent U.S. renewed attention on European security caused questions of U.S. allies in Asia about the reliability of U.S. security guarantees and whether U.S. rebalancing towards Asia can be sustained. The roundtable offers divergent perspectives of experts from several Asia-Pacific states, including Australia, Japan and South Korea. Tetsuo Kotani from Japan Institute of International Affairs argues that Japan, for the sake of its national security interest and maintaining reliable alliance with the US, should take a proactive role by working with the international community to punish Russia for its invasion of Ukraine and should remind the United States of its role as the "world's policeman." Seong-hyon Lee from Stanford University notes that from a South Korean perspective, U.S. response to the annexation of Crimea only fueled perception that Washington is unable to manage global crises as it confidently did in the past. Rory Medcalf from Lowy Institute for International Policy makes a point that an alarm bell for the United States in Europe may be beneficial for U.S. allies in the Asia-Pacific. It is because the Crimea crisis may make the United States more serious—not less—about stability, presence, and deterrence in Asia.

Tsuruoka, Michito. "Japan's New Nuclear Deterrence Challenges: The Implications of Russia's Nuclear Saber-Rattling and NATO's Response Peninsula," in *North Korea and Asia's Evolving Nuclear Landscape: Challenges to Regional Stability*, edited by Aaron. L. Friedberg (et al). *NBR Special Report #67*. August 2017. <http://nbr.org/publications/element.aspx?id=953>

Japan needs to thoroughly examine the impacts—both direct and indirect—of Russia's nuclear saber-rattling on Japanese security. The strengthened nuclear message to Russia from the NATO summit in Warsaw in July 2016 shows possible paths that the U.S.-Japan alliance could contemplate in terms of enhancing its own language on extended nuclear deterrence, despite the fact that the regional contexts in Europe and Asia are vastly different.

Tsuruoka, Michito, "Mutual Support and Common Interests in Asia and European Neighborhoods." *GMF Policy Brief*. April 2015. <http://www.gmfus.org/publications/mutual-support-and-common-interests-asia-and-european-neighborhoods>

The security of Asia and Europe is increasingly interlinked. What happens in Asia can have a direct impact on Europe and vice versa. Japan-Europe cooperation — in addition to cooperation with the United States — is not a distraction, it is a strategic imperative.

Tsuruoka, Michito, "NATO's Challenges as Seen from Asia: Is the European Security Landscape Becoming Like Asia?" *The Polish Quarterly of International Affairs*, Vol. 25, No. 1, 2016.

There are growing similarities between the European and Asian security landscapes, and the two regions share an increasing number of common security challenges, mainly caused by Russia and China. The common challenges include the change of the status quo by force, hybrid warfare, anti-access / area denial (A2/AD) capability and nuclear posture.

Twomey, Christopher, "The Asian Nuclear System in Comparative and Theoretical Context" in *North Korea and Asia's Evolving Nuclear Landscape: Challenges to Regional Stability*, edited by Aaron. L. Friedberg (et al). *NBR Special Report #67*. August 2017. <http://www.nbr.org/publications/element.aspx?id=952>

The outlook for Asia's nuclear future is very negative. Historical and theoretical grounds suggest that strategic instability will be rife in Asia's second nuclear age. Dangerous interactions across multiple players in different configurations will be exacerbated by the multidimensionality in areas of technical and military competition.

2. Evolution of Regional Deterrence Strategies and Policies

Dibenedetto, Alessandra G. and Jeffrey A. Larsen. "Keep Calm and Deter: NATO Nuclear Deterrence After the Warsaw Summit," *NDC Conference Report*, No. 01/17, 2017.

<http://www.ndc.nato.int/news/news.php?icode=1065>

The report presents main takeaways from the annual Nuclear Deterrence conference held at the NATO Defense College (NDC) in December 2016, organized by the NDC Research Division and co-sponsored by the Institute for Strategic Research in the French Ministry of Defense. Among the key findings are that NATO needs to continue strengthening its conventional and nuclear deterrent capabilities, increase its strategic education efforts, and try to develop a grand strategy. As Russia seems to be integrating nuclear weapons into its political and military strategies, NATO needs to maintain a credible, committed and transparent deterrent posture. Finally, the East Asian and Middle Eastern nuclear scenarios remain uncertain, as is any NATO response to a crisis in those regions.

Other reports from NDC nuclear deterrence conferences:

- Yost, David S. "NATO's Deterrence and Defense Posture After the Chicago Summit: A Report on a Workshop in Rome, 25-27 June 2012." *Workshop Report*, October 2012. <http://www.ndc.nato.int/download/downloads.php?icode=356>
- Yost, David S. "Carrying Forward NATO's Deterrence Review: A Report on a Workshop in Brussels, 25-26 October 2011." *Workshop Report*, December 2011. <http://www.ndc.nato.int/download/downloads.php?icode=310>
- Yost, David S. "Adapting NATO's Deterrence Posture: The Alliance's New Strategic Concept and Implications for Nuclear Policy, Non-Proliferation, Arms Control, and Disarmament: A Report on a Workshop in Tallinn, 4-6 May 2011." *Workshop Report*, June 2011. <http://www.ndc.nato.int/download/downloads.php?icode=294>
- Yost, David S. "The Future of NATO's Nuclear Deterrent: The New Strategic Concept and the 2010 NPT Review Conference." *Workshop Report*, April 2010. <http://www.ndc.nato.int/download/downloads.php?icode=193>

Durkalec, Jacek. "NATO Adaptation to Russia's Nuclear Challenge." *PISM Bulletin*, no. 59 (909), September 2016. <https://www.pism.pl/publications/bulletin/no-59-909>.

In response to Russia's nuclear threats, NATO has strengthened its nuclear deterrence. The Warsaw Summit aimed to send a message of resolve and readiness to face nuclear risks. The Alliance's credibility depends, however, on its continued efforts in strategic communication, planning and exercises, and investment in maintaining effective capabilities.

Jimbo, Ken. "Japanese Perceptions of Nuclear — Twin Commitments under the Obama Administration," *PacNet*, no. 9a, February 2009. Pacific Forum CSIS.

<http://csis.org/files/media/csis/pubs/pac0909a.pdf>

The paper discusses Japan's view on President Obama's "twin commitments" to the goals of nuclear abolition and maintaining an adequate deterrent as long as nuclear

weapons exist. It provides a list of ideas on how U.S. extended deterrence commitments to Japan could be reshaped.

O'Neil, Andrew, *Asia, the US and Extended Nuclear Deterrence: Atomic Umbrellas in the Twenty-First Century*. Routledge, Abingdon, 2013.

The book provides a detailed analysis of the way in which extended nuclear deterrence operates in contemporary Asia. It addresses the following key questions: What does the role of extended nuclear deterrence in Asia tell us about the broader role of extended nuclear deterrence in the contemporary international system? Is this role likely to change significantly in the years ahead? O'Neil uses a theoretical and historical framework to analyze the contemporary and future dynamics of extended nuclear deterrence relationship between the U.S. and Australia, Japan, and South Korea.

Park, Chang Kwoun and Victor A. Utgoff. "On Strengthening Extended Deterrence for the ROK-U.S. Alliance." *JFQ*, Issue 68, 2013. http://ndupress.ndu.edu/Portals/68/Documents/jfq/jfq-68/JFQ-68_84-90_Park-Utgoff.pdf

In the paper from 2013, the authors argue that while the basis for confidence in the alliance's extended deterrence seems sufficient, as the DPRK nuclear threat continues to evolve, U.S. extended deterrence to South Korea will have to evolve, too. Improved defenses and conventional strike forces will need to become a reality. Also, the nuclear deterrence arrangements would need to be strengthened on a timely basis. The authors present six options of strengthening U.S. extended deterrence in the Korean Peninsula: 1) Broadening Extended Deterrence to include Missile Defenses and Conventional Strategic Strike; 2) Enabling the ROK to Share Alliance Nuclear Responsibilities More Fully; 3) Establishment of Jointly Controlled Conventional Strategic Strike Capabilities; 4) Deployment of U.S. Nuclear Weapons In or Near South Korea as Needed; 5) Structuring Extended Deterrence to Minimize North Korean Peacetime Threats and Provocations; and 6) Development of an Adaptive Plan for Strengthening Extended Deterrence.

Paulauskas, Kęstutis. "On Deterrence," *NATO Review*, 2016. <http://www.nato.int/docu/review/2016/Also-in-2016/nato-deterrence-defence-alliance/EN/index.htm>

The Warsaw Summit in Warsaw in 2017 was an important waypoint towards a strengthened Alliance deterrence and defense posture. As work progresses, NATO will need to address many challenges, including a need to increase defense spending, complement deterrence with a meaningful dialogue with Russia, responding to threats posed by non-state actors, and ensuring overall coherence of its evolving deterrence and defense posture.

Pilat, Joseph F. "A Reversal of Fortunes? Extended Deterrence and Assurance in Europe and East Asia." *Journal of Strategic Studies*, vol. 39, no. 4, 2016.

The author observes that in recent years many Europeans were looking at the East Asian extended deterrence relationships, which do not involve forward deployed forces as more attractive than NATO's risk-and-burden-sharing concepts involving the US nuclear forces. On the other hand, the East Asian allies were looking favorably at NATO nuclear consultations, and in the case of South Korea, renewed US nuclear deployments (which were ended in 1991) to meet increased security concerns posed by a nuclear North Korea and more assertive China. The article explores the history of extended deterrence relationships in Europe and East Asia and the changes that led the US allies in each region to view arrangements in the other region as more suitable for meeting their security needs.

“Report: Rethinking Deterrence and Assurance. Western Deterrence Strategies: At an Inflection Point?” June 2017, WP1545. <https://www.wiltonpark.org.uk/wp-content/uploads/WP1545-Report.pdf>

The report summarizes a Wilton Park conference held from 14 to 17 June 2017 (WP1545). A key takeaway is that a deterrence inflection point has been reached in major power relations with a turn to a more adversarial character and with the emergence of a nuclear-arming North Korea with long-range missiles. A key implication of shifts in the security environment is that limited nuclear war has become plausible in both Europe and Northeast Asia, even though its actual likelihood cannot be known. To meet the growing challenges, U.S. allies in Europe and Asia must adapt their security and military strategies and further tailor their deterrence toolkits. The common challenge in both regions is to tackle Russia, North Korea, and China attempts to exploit the relationship between the United States and its allies. One issue that will potentially strain the diplomatic relationship between the United States and its allies is the impending United Nations (UN) Nuclear Weapons Ban Treaty.

How thinking on deterrence and assurance evolved can be tracked by looking into reports from similar Wilton Park’s workshops in recent years, including:

- “Report: Rethinking deterrence and assurance: Russia’s strategy relating to regional coercion and war, and NATO’s response,” May 2016, WP1470. <https://www.wiltonpark.org.uk/wp-content/uploads/WP1470-Report.pdf>
- “Report: Rethinking deterrence and assurance,” June 2015, WP1401. <https://www.wiltonpark.org.uk/wp-content/uploads/WP1401-Report.pdf>.
- “Conference report: Towards global nuclear order: deterrence, assurance and reductions,” July 2013, WP1211. <https://www.wiltonpark.org.uk/wp-content/uploads/WP1211-Conference-Report-260913.pdf>
- “Conference report: Deterrence, assurance and reductions: rebalancing the nuclear order,” June 2012, WP1175, <https://www.wiltonpark.org.uk/wp-content/uploads/WP1175-final-report.pdf>.
- “Conference report: Nuclear deterrence and nuclear assurance in the NATO Area,” June 2011, WP1101, <https://www.wiltonpark.org.uk/wp-content/uploads/WP1101-Report.pdf>.
- “Report on Wilton Park Conference: Managing Nuclear Weapons: Reductions, Drawdown and Elimination: What Makes Sense?” June 2009, WP978, <https://www.wiltonpark.org.uk/wp-content/uploads/WP978.pdf>.

Reports from the US-ROK-Japan Trilateral Strategic Dialogues. *Issues & Insights*. Pacific Forum CSIS, 2013-2017.

The reports include key findings and recommendations from regular dialogue on U.S. extended deterrence between US, ROK, and Japanese experts, officials, and military officers. Together, the reports offer an overview on how discussions on U.S. extended deterrence in the Northeast Asia have evolved since 2013.

- Glosserman, Brad. “Decoupling and Divergences Among Allies: A Conference Report of the US-ROK-Japan Trilateral Strategic Dialogue.” *Pacific Forum CSIS. Issues & Insights*, Vol. 17 - No.14, Sept 2017).

https://csis-prod.s3.amazonaws.com/s3fs-public/publication/issuesinsights_vol17no14_revision.pdf?SkUKFHYc_uEdp.U.iFduuUzvyyvW6Uvc6

- Glosserman, Brad. "Back to Basics: A Conference Report from the US-ROK-Japan Trilateral Strategic Dialogue." *Pacific Forum CSIS. Issues & Insights*, Vol. 17, Iss. 2, (Feb 2017).
https://csis-prod.s3.amazonaws.com/s3fs-public/publication/issuesinsights_vol17no2_1.pdf?fH0h9cgrcKGxeDUasHDZB_VZps0Q2y3M
- Glosserman, Brad. "Struggling with the Gray Zone: Trilateral Cooperation to Strengthen Deterrence in Northeast Asia: A Conference Report from the US-ROK-Japan Trilateral Strategic Dialogue." *Pacific Forum CSIS. Issues & Insights*, Vol. 15, Iss. 13, (Oct 2015).
https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/issuesinsights_vol15no13.pdf
- Glosserman, Brad. "Respond and Restrain: Deterrence and Reassurance in Northeast Asia: A Conference Report from the US-ROK-Japan Trilateral Workshop and Simulation." *Pacific Forum CSIS. Issues & Insights*, Vol. 14, Iss. 16, (Jul 2014).
http://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/issuesinsights_vol14no16english_0.pdf
- Santoro, David and Brad Glosserman. "Building Toward Trilateral Cooperation on Extended Deterrence in Northeast Asia: The First US-ROK-Japan Extended Deterrence Trilateral Dialogue." *Pacific Forum CSIS. Issues & Insights*; Vol. 13, Iss. 14, (Sep 2013).
https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/issuesinsights_vol13no14.pdf

Roberts, Brad. "Extended Deterrence and Strategic Stability in Northeast Asia." *NIDS Visiting Scholar Paper Series*, no.1, August 2013.

<http://www.nids.mod.go.jp/english/publication/visiting/pdf/01.pdf>

A changed and changing security environment has created interest in Northeast Asia in the role of U.S. extended deterrence and the requirements of strategic stability in the 21st century. As Japan and the United States continue to work together to strengthen regional extended deterrence architecture, they face a number of policy questions. First, on missile defense of Japan: how much is enough? Second, on conventional strike: what should Japan contribute, if anything? Third, on the U.S. nuclear umbrella: is more tailoring of the U.S. posture required for Northeast Asia? Fourth, on strategic stability: can China, the United States, and Japan agree on the requirements?

Satoh, Yukio. "Japan's Responsibility Sharing for the U.S. Extended Deterrence," *Discuss Japan: Japan Foreign Policy Forum*, no. 19, March 2014.

http://www.japanpolicyforum.jp/pdf/2014/no19/DJweb_19_dip_01.pdf

The paper describes the shift of Japanese attitude toward the U.S. extended deterrence from one of reluctant recipient to one of positive participant. On the one hand, changes in Japanese attitude toward the U.S. extended deterrence were the consequence of worsening security circumstances. The increased potential threat posed by North Korean nuclear weapons and missile development has changed Japanese security perceptions in favor of stronger defense and closer alliance cooperation with the United States. The continued growth and modernization of Chinese military power and Beijing's

aggressive policy added to Japanese security concerns. On the other hand, changes in U.S. strategy to reduce the role of nuclear weapons and increase that of conventional forces in deterrence strategy have helped make it politically easier for Japan, particularly the Self Defense Forces (SDF), to take part in the alliance's deterrence efforts without worrying about possible conflicts with the country's non-nuclear policy.

Smith, Shane. "Implications for US Extended Deterrence and Assurance in East Asia." *North Korea's Nuclear Future Series*, US-Korea Institute, SAIS. November 2015.

<https://www.uskoreainstitute.org/wp-content/uploads/pdf/NKNF-Smith-Extended-Deterrence-Assurance.pdf>

North Korea's burgeoning nuclear program is placing greater demands on US extended deterrence and also raising questions in Seoul and Tokyo about the robustness of US commitments. These challenges are likely to grow over the coming years, as North Korea appears poised to expand the quantity, quality and diversity of weapons systems in its arsenal in potentially dramatic ways. Keeping up with the requirements for extended deterrence and assurance is likely to test US policymakers and military planners for the foreseeable future.

Takahashi, Sugio. "Rebuilding Deterrence, Post-2015 Defense Guidelines Challenges Facing the U.S.-Japan Alliance." Project 2049 Institute. May 2015.

http://project2049.net/documents/Takahashi_2015_Defense_Guidelines_Challenges_US_Japan_Alliance.pdf

The paper explores the challenges facing the U.S.-Japan alliance after the revision of the Guidelines for the Japan-U.S. Defense Cooperation in April 2015. Takahashi offers three policy solutions to strengthen allied deterrence. First, the alliance should enhance the credibility of nuclear deterrence, and for this purpose the U.S. should not explicitly accept the notion of mutual vulnerability with China. Second, the alliance should work to find a solution to the competing demands of responding simultaneously both to creeping expansion and the A2/AD threat. Third, the alliance should develop a counter-A2/AD strategy.

"The future of the U.S.-ROK Alliance. Change and Continuity in North Korea Policy." *NBR Special Report #65*, April 2017.

http://www.nbr.org/publications/specialreport/pdf/Free/06162017/SR65_Future_of_the_ROK-US_Alliance_April2017.pdf

The collection of papers written by American and South Korean experts traces the contours of the U.S.-ROK alliance and offers insights into the factors that will shape its future.

Tertrais, Bruno (ed.) "Perspectives on Extended Deterrence," *Researchers and Documents*, No. 3/2010, Fondation pour la Recherche Stratégique, 2010.

http://www.frstrategie.org/barreFRS/publications/rd/2010/RD_201003.pdf

The volume collects various perspectives on U.S. extended deterrence given by a group of experts from the United States, Europe, the Middle East and East Asia. While the papers give an overview of thinking and discussions before and just after the 2010 U.S. Nuclear Posture Review, many of the themes and questions remain relevant today.

Yost, David. S. "The NATO Capabilities Gap and the European Union," *Survival*, vol. 42, Issue 4, 2000-2001.

The article shows that the defense capability gap that divides the United States from its European allies was real at the end of 1990s and beginning of 2000s, and it mattered.

Large transatlantic disparities in conducting large scale expeditionary operations became painfully obvious during NATO's Kosovo intervention in March-June 1999. The campaign also raised a question about availability of U.S. forces to deal with a crisis in Europe in a context of U.S. global commitments. If the U.S. had faced an actual threat of war in Southwest or Northeast Asia, *Operation Allied Force* would have probably taken different form as the U.S. would have had to redeploy some committed military assets to other potential warfighting theaters.

3. Extended Deterrence Hardware: In Search of a New Appropriate Mix?

Juarez, Anthony. "Remixing the 'Appropriate Mix.' Reassessing NATO's Deterrence and Defense Posture in the Face of New Threats." The Center for Global Security Research, Lawrence Livermore National Laboratory, LLNL-TR-699505, July 2016.

https://cgslr.llnl.gov/content/assets/docs/Reassessing_the_mix_Juarez.pdf

To deter conventional conflict in Europe, NATO cannot make changes to one capability area (conventional, missile defense, and nuclear) exclusively. To improve the capabilities and the credibility necessary to deter Russia and provide assurance to the nations in the Alliance, NATO should make the following changes: 1) Improve the capabilities of NATO conventional forces with having at least three ABCTs in the Baltics, supplemented with the ability to rapidly deploy three more ABCTs to deny a decoupling strategy; 2) Begin the planning to integrate a standoff nuclear capability into NATO's nuclear sharing arrangements for this and the next generation of NATO DCA; 3) Explore the creation of a ballistic and cruise missile defense architecture explicitly targeting missiles coming from Russia.

Kroenig, Matthew. "Toward a More Flexible NATO Nuclear Posture." *Issue Brief*. Atlantic Council, November 2016.

http://www.atlanticcouncil.org/images/publications/Toward_a_More_Flexible_NATO_Nuclear_Posture_web_1115.pdf

Kroenig argues that NATO lacks a credible deterrent for Russian "de-escalatory" nuclear strikes. To grapple with this possibility, NATO must consider the development of new, more flexible nuclear capabilities of its own. Particularly, the Alliance should equip its Dual-Capable Aircraft (DCA) with a nuclear-armed, air-to-surface cruise missile.

Kurose, Yoshinari. "If Japan Doesn't Go Nuclear, What Are the Options?" Japan Forward, October 2017. <https://japan-forward.com/if-japan-doesnt-go-nuclear-what-are-the-options/>

Yoshinari Kurose, Washington DC bureau chief of Sankei Shimbun daily newspaper, argues that Japanese post-World War II national defense policy of *senshu bouei* (strictly defensive only) is becoming irrelevant and obsolete for dealing with North Korea. Similarly, the Japanese government's "three non-nuclear principles" of not producing, not possessing, and not allowing the entry of nuclear weapons into the country constitute a straitjacket which must be taken off. While the author does not advocate Japan going nuclear, he lays out three "Plan B" options: 1) deployment of U.S. nuclear weapons in Japan; 2) NATO-like nuclear sharing arrangements in East Asia; and 3) joint U.S.-Japan development of Japan's indigenous nuclear-powered strategic missile submarine.

Luik, Jüri and Tomas Jermalavičius. "A plausible scenario of nuclear war in Europe, and how to deter it: A perspective from Estonia." *Bulletin of the Atomic Scientists*, 73:4, 2017.

<http://dx.doi.org/10.1080/00963402.2017.1338014>

Russia's posture and capabilities could allow it to seize the Baltics, establishing a relatively quick *fait accompli* that it then defends by issuing nuclear threats. However, NATO's options for dealing with Russia's edge in tactical nuclear weaponry have narrowed considerably. Also, NATO's current conventional posture is not sufficient to prevent Russia's miscalculation because NATO still relies on "deterrence by punishment." The best way to lessen the likelihood of a Russian misadventure is conventional "deterrence by denial" in the Baltic theater – that is, putting together a forward deployed force in the Baltic states, with all the necessary enablers, sufficient to make a quick *fait accompli* through a sudden conventional attack nigh impossible.

Manzo, Vince A. and John K. Warden. "Want to Avoid Nuclear War? Reject Mutual Vulnerability with North Korea." *War on the Rocks*, August 29, 2017.

<https://warontherocks.com/2017/08/want-to-avoid-nuclear-war-reject-mutual-vulnerability-with-north-korea/>

Manzo and Warden argue that rather than accepting North Korea's ability to cause significant destruction to the United States with a nuclear strike, the United States should field damage limitation capabilities, a combination of strike and missile defense armaments that would allow the United States to disarm the majority of North Korea's nuclear weapons capability and prevent significant retaliatory strikes against U.S. cities. Together with South Korea and Japan, the U.S. should also improve its ability to strike and defend against North Korea's theater-range missiles. Preemptive disarmament of North Korea's nuclear forces is not the primary reason for pursuing damage limitation capabilities. Rather, the main reason is to convince Kim Jong Un that restraint is preferable to escalation.

Meeting U.S. Deterrence Requirements: Toward a Sustainable National Consensus, A Working Group Report, edited by Robert Einhorn and Steven Pifer. Brookings Institution, September 2017. https://www.brookings.edu/wp-content/uploads/2017/09/fp_20170920_deterrence_report.pdf

The report, based on deliberations of a number of prominent American nuclear policy experts, seeks to identify the main elements of a sound and sustainable U.S. national consensus on deterrence issues. The experts agree that today's most pressing challenges to U.S. deterrence goals come from the possibility that nuclear-armed adversaries will use the threat of escalation to the nuclear level to act more aggressively in their regions and prevent the United States from coming to the defense of its allies and partners. A key priority must therefore be to reinforce deterrence at the regional level. In Europe, to strengthen deterrence against Russia, the United States and its NATO allies should continue to augment their forward conventional military presence; reinforce their extended nuclear deterrent by completing the B61-12 life extension program and replacing current dual-capable aircraft (DCA) over the next decade with F-35s; and give non-basing countries a greater role in the nuclear deterrence mission. In the Asia-Pacific, to strengthen deterrence of DPRK, Washington and its Asian partners should augment conventional deterrence; reduce the coercive value of the DPRK's missiles through integrated regional missile defense and conventional strike capabilities; and ensure the credibility of extended nuclear deterrence through a combination of U.S. central strategic systems and U.S. forward-deployable DCA, perhaps deploying the latter more persistently or permanently in South Korea (but not stationing U.S. nuclear weapons there). The combination of modernized U.S. central strategic systems and forward-deployable DCA can provide an edge vis-à-vis China, augmented if necessary by more regular regional deployments of U.S. strategic assets (though without nuclear weapons).

Payne, Keith B. and John S. Foster, et al. *A New Nuclear Review for a New Age*. National Institute Press, Fairfax, VA, 2017. <http://www.nipp.org/wp-content/uploads/2017/06/A-New-Nuclear-Review-final.pdf>

The intention of the broad study is to identify and assess the metrics and corresponding force attributes that should be deemed important when considering the adequacy of nuclear policy to serve U.S. priority national goals. With regard to U.S. extended nuclear deterrence in Europe, the study recommends adjustments to US and NATO capabilities and declaratory policy. Possible options include: acceleration of the availability of the nuclear-capable F-35A aircraft; widening of nuclear burden sharing by participation of Central and Eastern European states in the deployment and support of DCA; deployment of sub-strategic missiles at sea in the NATO region or on NATO territory; and creation of an integrated air and missile defense system against a limited Russian nuclear attack. Regarding U.S. extended deterrence in Asia, the study recommends considering options such as: additional US nuclear capabilities (DCA hosted at Japanese and South Korean bases) that may be important for deterrence of the DPRK; a low-yield nuclear weapon that could be delivered promptly against defended North Korean airspace; implementation of "NATO- like" nuclear consultation with Northeast Asian allies; and further U.S. pressure on Japan and South Korea for trilateral cooperation.

Schmitt, Gary J. and James M. Cunningham. "How to Respond to Russia's INF Treaty Violation." *Real Clear Defense*. July 2017. https://www.realcleardefense.com/articles/2017/07/20/how_to_respond_to_russias_inf_treaty_violation_111848.html

Russia's high-end air defenses minimize the deterrence effect of the American nuclear gravity bombs currently in Europe, particularly given the alliance's reliance on 4th generation aircraft to deliver them. To reclaim a meaningful, flexible deterrent against Russia, the US should deploy, when ready, the stealthy, air-launched Long-Range Stand-Off (LRSO) cruise missiles armed with warheads with scalable yields, and dual-capable F-35s. Possessing munitions and a platform for delivering them such as these would give the alliance prompt, non-escalatory capabilities, which would have a far greater chance of penetrating the enemy's air and missile defense layer. Further, reintroducing the TLAM-N, would signal to Russia that violating the INF Treaty has consequences and give the US, and thus its allies, another prompt nuclear asset in theater. Before the US decides to pull out of the INF Treaty with a new ground-launched intermediate-range missile, it must, together with willing allies, heavily engage in public diplomacy to avoid causing unnecessary and counterproductive fractures within NATO.

Takahashi, Sugio. "Thinking about the Unthinkable: The Case of the Korean Peninsula" in *North Korea and Asia's Evolving Nuclear Landscape: Challenges to Regional Stability*, edited by Aaron. L. Friedberg (et al). *NBR Special Report #67*. August 2017. <http://www.nbr.org/publications/element.aspx?id=954>

North Korea's potential deployment of nuclear-tipped ballistic missiles requires the United States to quantitatively and qualitatively upgrade its assurances to Japan. The U.S. must start with showing more strike forces, including forward deployment of dual-capable aircraft and strategic bombers, to demonstrate to both regional allies and North Korea that the United States is prepared to retaliate if Japan is attacked. While augmenting U.S. missile defense capabilities cannot be overestimated, it would also not be enough as incoming North Korean missiles could simply outnumber kinetic interceptors. Thus, considering limits of retaliation-based extended deterrence and

missile defense, the U.S. must be prepared to use its full range of capabilities, including nuclear ICBMs, to physically prevent North Korea from launching a nuclear-tipped missile against Japan.

Vershbow, Alexander and Frank Rose. "Russia Violated Our Nuclear Arms Control Treaty. Here's How We Respond." *The Hill*. April 2017. <http://thehill.com/blogs/pundits-blog/foreign-policy/329943-russia-violated-our-nuclear-arms-treaty-heres-how-we>

While diplomatic efforts to convince Russia to comply with the INF Treaty should continue, the time has come for a strong — but proportional — response to Russia's violation. The INF Treaty is not merely a bilateral agreement between the United States and Russia, but a cornerstone of security and stability for our allies in Europe and Asia. First, the United States should move forward with modernization of strategic nuclear delivery systems, especially the new air-launched nuclear cruise missile, known as the Long-range Stand-off system (LRSO). Second, the U.S. and its allies should improve air- and sea-launched, conventional strike capabilities. Third, Russia should be reminded that NATO remains a nuclear alliance with the capabilities and the political resolve to counter the increased nuclear threat posed by Russia's illegal cruise missile. Fourth, United States and NATO should deploy limited defenses against cruise missiles to protect key alliance assets in the event of conflict with Russia. Development and deployment by the United States of its own intermediate-range GLCM, beyond the high cost and long lead-time, could generate strong political opposition in Europe and provide an opening for Russian wedge-driving.

Winnefeld, Sandy and James N. Miller. "Bring Back the Nuclear Tomahawks." *Proceedings Magazine*, Vol. 143/5/1,371, May 2017. <https://www.usni.org/magazines/proceedings/2017-05/bring-back-nuclear-tomahawks>

In response to Russia's violation of the INF Treaty, the United States should restore Tomahawk land-attack missile-nuclear (TLAM-N). Such capability would, for example, not only provide a credible and survivable option for extended deterrence in Europe, but also would bolster deterrence and assurance in the Pacific at a time when North Korea is growing its nuclear capability.

4. Options for Updating Extended Deterrence Software

Durkalec, Jacek. "Nuclear-Backed "Little Green Men:" Nuclear Messaging in the Ukraine Crisis." *PISM Report*. Polish Institute of International Affairs. July 2015. <http://www.pism.pl/publications/PISM-reports/Nuclear-Backed-Little-Green-Men-Nuclear-Messaging-in-the-Ukraine-Crisis>

Nuclear messaging that accompanied Russia's aggressive actions against Ukraine exposed a number of challenges to the effectiveness of NATO's nuclear deterrence and assurance. To adapt to the new nuclear landscape in Europe, the NATO Allies should consider rebalancing their thinking towards nuclear deterrence, re-examine their nuclear crisis-management tools, adjust exercise practices, refresh declaratory policy and re-design their nuclear communication strategy.

Grand, Camille. "Nuclear deterrence and the Alliance in the 21st century." *NATO Review*, 2016. <http://www.nato.int/docu/review/2016/Also-in-2016/nuclear-deterrence-alliance-21st-century-nato/EN/index.htm>

In a context of multiple and diverse threats, deterrence is back and NATO needs to re-establish a robust and credible defense and deterrent. No radical transformation of the

Alliance nuclear posture in numbers or deployment is required. The Alliance should also avoid a risk associated with the complete integration of nuclear exercises into conventional exercises and does not have to mirror capabilities and policies of Russia or any other non-NATO nuclear weapon states. To strengthen NATO 's nuclear deterrent policy, the allies concerned should actively pursue modernization process of the airborne Dual Capable Aircraft. The forces involved in the nuclear mission should be exercised openly and regularly, without undermining their specific nature. NATO needs also to be clearer and more direct about the role nuclear weapons play in Alliance deterrence and defense. Additionally, starting with the Warsaw Summit, the Alliance should implement the following steps: address loopholes in conventional capabilities; send clear deterrent messages; foster nuclear debate within the Alliance; emphasize the last resort and deterrent value of nuclear weapons; and clearly warn about consequences of nuclear weapons use.

Green, Michael J. and Matthew Kroenig. "A New Strategy for Deterrence and Rollback with North Korea." *War on the Rocks*, October 2017. <https://warontherocks.com/2017/10/a-new-strategy-for-deterrence-and-rollback-with-north-korea/>

Rather than preparing for diplomatic or warfighting scenarios with a nuclear-armed North Korea, the United States should be preparing for a sustained period of deterrence, coercive diplomacy, and rollback. This is the best approach to achieve the international community's long-stated goal of the eventual peaceful denuclearization and reunification of the Korean Peninsula at an acceptable cost. First, the administration needs to put in place a regime of economic sanctions that will not be reversed at the earliest sign of diplomatic engagement from North Korea. Second, the United States should strengthen homeland and regional ballistic missile defenses and must have credible offensive military options, including the option of preempting North Korean missile attack. Third, the U.S. alliance network in the Asia-Pacific must move in the direction of a regional collective security arrangement to deal with the common threat. Return of tactical nuclear weapons to South Korea is unnecessary at this point but the U.S. extended nuclear deterrent in Asia could be augmented by efforts aimed at making the option of deployment of nuclear-armed dual-capable aircraft more credible or by re-introduction of more flexible tactical nuclear options, such as the TLAM-N submarine-launched nuclear cruise missile.

Kim, Jina. "North Korea's Nuclear Posture and Its Implications for the U.S.-ROK Alliance" in *North Korea and Asia's Evolving Nuclear Landscape: Challenges to Regional Stability*, edited by Aaron. L. Friedberg (et al). *NBR Special Report #67*, August 2017. <http://www.nbr.org/publications/element.aspx?id=955>

To tackle North Korean nuclear brinkmanship, the U.S.-ROK alliance should fully implement a tailored deterrence strategy, which remains at a conceptual level and has not yet been fully implemented.

Kroenig, Matthew. "Toward a Common Strategy for Deterring a Nuclear North Korea" in *North Korea and Asia's Evolving Nuclear Landscape: Challenges to Regional Stability*, edited by Aaron. L. Friedberg (et al). *NBR Special Report #67*, August 2017. <http://www.nbr.org/publications/element.aspx?id=958>

The United States and its Northeast Asian allies, South Korea and Japan, lack a common strategy for deterring the North Korean nuclear threat. Most notably, they do not have a clear sense of how they would respond in the event of a North Korean nuclear attack. Thus, they must rectify this situation by coming to a common threat assessment and then proceeding to formulate and articulate a clearer strategy.

Manzo, Vince A. and Aaron R. Miles. "The Logic of Integrating Conventional and Nuclear Planning." *Arms Control Today*, November 2016.
https://www.armscontrol.org/ACT/2016_11/Features/The-Logic-of-Integrating-Conventional-and-Nuclear-Planning

Manzo and Miles argue that "appropriate level of integration" between nuclear and conventional planning and operations is essential for effective deterrence. It can be achieved without increasing reliance on nuclear weapons, blurring the distinction between non-nuclear and nuclear conflict, or lowering the threshold for nuclear use. There are three principal ways to improve integration: planning conventional campaigns to shape adversary nuclear escalation calculus; strengthening conventional resiliency to nuclear operations; and providing integrated response options to nuclear first use by an adversary that are limited and credible.

Miller, Franklin C. "Adjusting NATO's Nuclear Policies: A Five Step Program." Atlantic Council, March 2016. <http://www.atlanticcouncil.org/blogs/natosource/adjusting-nato-s-nuclear-policies-a-five-step-program>

To deter the threat of nuclear blackmail from Russian President Vladimir Putin and the threat posed by Russia's nuclear capabilities, the leaders of NATO should take five steps at the Warsaw summit. First, they should recognize the threat posed by Russia's nuclear build-up and saber-rattling. Second, the Alliance should inform the public of all NATO members about what the Russian Federation has been saying and doing with respect to its nuclear forces over the past decade. Third, NATO should fix its declaratory policy. Fourth, NATO's nuclear plans and forces should be improved. Last, but not least, NATO allies should maintain and strengthen their solidarity.

Santoro, David. "Deterring North Korea: The Next Nuclear-Tailoring Agenda." *War on the Rocks*, August 2017. <https://warontherocks.com/2017/08/deterring-north-korea-the-next-nuclear-tailoring-agenda/>

Because North Korea's arsenal is becoming increasingly sophisticated, work is needed to further adapt and strengthen U.S. extended deterrence capabilities, postures, and policies in Northeast Asia. The United States together with Japan and South Korea should double down on investing in missile defenses and conventional strike capabilities, as well as other systems, notably intelligence, surveillance, and reconnaissance technology. Allies should also better integrate these systems at the trilateral level and ramp up efforts to coordinate response options in a crisis. Washington can do additional nuclear tailoring in Northeast Asia by more nuclear information-sharing and by giving Seoul and Tokyo a role in supporting U.S. nuclear operations with non-nuclear means, similar to NATO's SNOWCAT arrangements.

Tsuruoka, Michito. "The NATO vs. East Asian Models of Extended Nuclear Deterrence? Seeking a Synergy beyond Dichotomy." *The Asan Forum*, June 2016.
<http://www.theasanforum.org/the-nato-vs-east-asian-models-of-extended-nuclear-deterrence-seeking-a-synergy-beyond-dichotomy/>

Tsuruoka reviews characteristics of both the NATO and East Asian models of extended nuclear deterrence and proposes a spectrum (hierarchy) of nuclear burden-sharing from contribution of independent nuclear forces to the alliance's deterrence to participation in nuclear consultations. He argues that despite different contexts, security situations, and histories, U.S. European and East Asia allies face similar questions related to credibility of U.S. extended deterrence. First, it remains unclear whether the forward deployment of non-strategic nuclear weapons on allies' soil is necessary in extended deterrence

arrangements. Second, whether and how serious nuclear consultations can be conducted without relying on the physical elements of nuclear-sharing. Third, how to counter nuclear saber-rattling by regional adversaries and deter them from nuclear use in a hypothetical conflict. Tsuruoka concludes that in thinking about managing the extended nuclear deterrence relationship with the United States, NATO and East Asian allies need to look more at each other and seek a synergy between extended deterrence models in their regions.

Warden, John K. "North Korea's Nuclear Posture: An Evolving Challenge for U.S. Deterrence." *Proliferation Papers*. Ifri, March 2017.

https://www.ifri.org/sites/default/files/atoms/files/warden_north_korea_nuclear_posture_2017.pdf

A more capable, nuclear-armed North Korea will pose very substantial challenges to the U.S. deterrence posture. As North Korea's capabilities mature, the United States, South Korea, and Japan will need to articulate a comprehensive approach to deterring Pyongyang while managing their differences to respond to North Korea's behavior during peacetime, crisis, and conflict. To deter Pyongyang, coordination is key, hence the need for the United States and its allies to adopt a layered deterrence strategy and determine courses of action that, if pursued vigorously and carefully, would increase their chances of containing a nuclear-armed North Korea and avoiding nuclear war.